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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/878,491	06/11/2001	Kazuo Maeda	VREX-0022USAAON00	2088
7590	05/07/2004		EXAMINER	
Gerow D. Brill Reveo, Inc. 85 Executive Blvd. Elmsford, NY 10523			CHANG, AUDREY Y	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 05/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/878,491

Applicant(s)

MAEDA ET AL.

Examiner

Audrey Y. Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4,6-9,11-13,16 and 17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4,6-9,11-13,16 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Remark

- This office Action is in response to applicant's amendment filed on March 1, 2004, which has been entered into the file.
- By this amendment, the applicant has amended claims 4, 12, 13, and 16-17 and has canceled claims 10 and 18.
- Claims 4, 6-9, 11-13 and 16-17 remain pending in this application.
- The objections to the drawings set forth in the previous Office Action are withdrawn in response to applicant's amendment.

Drawings

1. The proposed drawing corrections, filed on **March 1, 2004**, are **not acceptable and are objected** to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "32", "34" and "36" have been **multiply** used to designate different elements, such as PVA film, adhesive, and TAC film at different parts of specification and figures. Numerical character "30" has been used to designate "**polarizing film**", however polarizing film is not supported in the specification. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Response to Amendment

2. The amendment filed on March 1, 2004 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: **claim 4 has been amended** to include the feature having a **plurality of phase difference film**. The specification never gives support for having a **plurality** of phase difference film. The grooves are formed by cutting different portion of a single phase difference film not a plurality of them.

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Applicant is required to cancel the new matter in the reply to this Office Action.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. **Claims 4, 6-9, 11-13 and 16-17 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The reason for rejection based on newly added matters is set forth in the paragraph above.

5. **Claims 4, 6-9, 11-13, and 16-17 are rejected under 35 U.S.C. 112, first paragraph**, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was **not** described in the specification in such a way as to **enable** one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The specification and the claims **fail** to teach how to “cut[ting] away specified portions of said phase difference film ... so that a plurality of grooves extending from a first side of said phase difference film to an **opposite** side of said phase difference film”, as recited in claim 4, and yet the phase difference film still has one single film structure, as claimed by the various dependent claims. The plurality of grooves extended from one side to the opposite side will make the “film” having a plurality of **separated film regions** that are not connected to each other and will not compose a **single film**.

The specification and the claims **fail** to teach how could a half wave plate is capable of being used with a 3D display to create 3D viewing. The retarder has to be patterned and **be working together** with a **polarizer**, (as shown in Figure 9 of cited Faris reference (PN. 5,327,285)) in order to provided

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micro-polarizer pattern to allow selectively displaying left eye and right eye image respectfully to create stereoscopic viewing. Claims 13 and 16 have specifically claim that the phase difference film to be a half wave plate. If the applicant does not claim to use a half wave plate to create 3D image displaying and viewing then the claims and the specification also FAIL to provide how does the 3D image display is achieved.

Clarifications are required.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. **Claims 4, 6-9, 11-13, and 16-17 are rejected under 35 U.S.C. 112, second paragraph**, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 has been amended to include the phrase “a **plurality** of phase different film” that is confusing and indefinite since it is not clear if there is **one** film or **more than one** film. The phrase “side phase difference film” recited in all the **dependent** claims is also confusing since it is not clear if this referred to one single film or not.

The phrase “said phase difference film side” recited in claim 6 is indefinite and confusing since it is not clear which side is considered to be the side referred here.

The phrase “said polarizer” recited in the **amended** claim 17 is confusing and in error since it lacks proper antecedent basis from its based claim.

*The claims are generally narrative and indefinite, failing to conform to current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. The applicant is respectfully reminded to clear out **ALL** of the discrepancies of the claims to make the claims in comply with the requirements of 35 USC 112, first and second paragraphs.*

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 4, 6-9, 11-13 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over the patent issued to Faris (PN. 5,327,285) in view of the patent issued to Okamoto (PN. 6,147,738) and Gerber et al (PN. 5,720,649).**

Faris teaches a *micropolarizer* (Figure 1), serves as the film, which can be used with spatially multiplexed image elements in a *3D stereo display system*, (please see column 1). The stereoscopic viewing is enabled by having the *micropolarizer* (1, Figure 1) with mixed regions of *orthogonal polarization states* (P1 and P2) that are aligned with the spatially multiplexed left and right eye image display, respectively, such that the right eye and left eye image are then coded with orthogonal polarization states (P1 and P2) through the micropolarizer respectively, and then with the help of a spectacle the left and right eye images could be viewed by left and right eye respectively of an observer to obtain stereoscopic illusion, i.e. forming stereoscopic image display system. Faris teaches that the *micropolarizer is manufactured by laminating a PVA film* (5, 10 or 68, in Figures 2-3 and 6a), which is drawn to have birefringence, *with a CAB or TAC film* (4 or 69) that together serve as the *laminated phase difference film*. Faris also teaches that the specific portions of the laminated polarizing film may be cut away by using a *diamond cutter* (66, Figure 6a) so that a plurality of **grooves** extending from a first side of the polarizing film with respect to the **opposite** side are formed, (please see Figure 6a and column 4, lines 24-30). The plurality of grooves are then corresponding to patterned regions of linear polarizer or half wave plate (pattern 38, Figure 9).

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Claim 4 has been amended to include the feature of “a plurality of phase difference film”.

However this feature is not well defined for it is not clear if there is one or more than one phase difference film. As indicated in the specification and the cited patent, the grooves are formed by cutting away regions of **one single** laminated film, (please see Figure 4 on instant application and Figure 6a of the cited patent).

This reference has met all the limitations of the claims. Faris teaches that the micropolarizer could be used with spatially multiplexed image element to create stereoscopic display wherein the spatially multiplexed image element may serve as the *transparent support member* however it does not teach explicitly to include protective layer (as in claim 14) and an adhesive layer. *Okamoto* in the same field of endeavor teaches a polarizer (18 in Figure 1) used with a liquid crystal display device wherein the polarizer layer (19, Figure 3) is interposed between a pair of TAC film (20 and 21) and is *adhered* via an *adhesive layer* (24) to a *transparent glass substrate* (9). The polarizer is also protected by a *protective film* (23), (please see Figures 1 and 3). It would then have been obvious to one having ordinary skill in the art to modify the micropolarizer of Faris to make it adhered to a glass substrate via an adhesive layer and to be covered with a protective layer for the benefit of easy adoption of the micropolarizer to any display device, including spatially multiplexed image element or display member for the stereoscopic viewing, and for the benefit of protecting it from foreign dusts so that the viewing quality may be enhanced.

Faris teaches that a diamond cutter is used to cut away the specific regions of the phase difference film to create the pattern as shown. Although it does not teach explicitly that the diamond cutter has “ultra hard blade” however cutting tool including blades made of hard metal such as tungsten carbide for cutting optical elements is very well known in the art as taught by *Gerber et al* (please see blade 122, Figure 13 and column 8 lines 51-65). *Gerber et al* further teaches that cutting tools including *hard metal blades* or *diamond particle cutter* are both well known in the art and are equivalent cutting tools for

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cutting optical elements. It would then have been obvious to one skilled in the art to also use hard metal blade as alternative cutting tool to cut away the specific portions of the film to form the pattern desired for the phase difference film for the benefit of obtaining an easy accessible cutting tool that is less costly.

With regard to claims 8-9, Faris teaches that the specified cut-away regions are not filled with any material. Although this reference does not teach that the cut-away regions are filled with synthetic resin, since the specification fails to teach the criticality of having this filling will overcome any problem in the prior art such modification is considered to be obvious matters of design choice to one skilled in the art for the benefit of adding certain protection layer to the polarizer.

With regard to the feature concerning the drawn PVA film, Faris teaches that the PVA film is stretched to obtain polarization property. Faris teaches that the PVA film is of 10-20 micron thick but it does not teach explicitly that it is of 38 micron, (with regard to claim 12). However the specification fails to teach the criticality of having this particular thickness will overcome any problem in the prior art and the micropolarizer of Faris functions the same as the instant application, such modification is therefore considered to be obvious matters of design choice to one skilled in the art for the benefit of providing different arrangement for the film.

With regard to claim 11, Faris teaches that the TAC or CAB film is of a thickness of 125 μm , which is essentially the same as 126 μm , (please see column 2, lines 60).

With regard to claim 16, Faris in a different embodiment, teaches that the PVA film may be formed to have patterned π phase regions (37 in Figure 9) such that the patterned film form a *half wave retarder*, (please see Figure 9). This means the patterned regions (37) impart a phase difference of 180 degree to the light passes through them as compared to the light passed through the regions without the patterned film. In this case the PVA film is not a polarizer.

With regard to claim 17, Faris teaches that the pitch of the micropolarizer may be ranged between 10^4 micron to 10 micron, which certainly includes 160 micron, (please see column 1). Faris also teaches

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that the micropolarizer can have checkerboard type of arrangement for regions having polarization states P1 and P2 respectively, (please see Figure 1). This suggests that the pitches for the micropolarizer in both the width and length directions may assume the values stated above.

Response to Arguments

10. Applicant's arguments filed on **March 1, 2004** have been fully considered but they are not persuasive.

11. Applicant's arguments concerning "a plurality of phase difference film" is confusing since it is not clear if there is a single film or more than one films claimed.

12. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the phrase "Faris does not disclose or suggest phase difference films and **attaching transparent resist members** onto said film and eliminating regions of the film where transparent resist members are not present" Remark page 9) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH**

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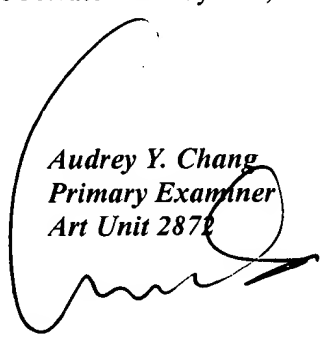
shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Audrey Y. Chang whose telephone number is 571-272-2309. The examiner can normally be reached on Monday-Friday (8:00-4:30), alternative Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A. Chang, Ph.D.



*Audrey Y. Chang
Primary Examiner
Art Unit 2872*